

**Louisiana Department of Environmental Quality (LDEQ)
Office of Environmental Services**

STATEMENT OF BASIS

**Flowers Baking Co of Baton Rouge, LLC
Title V Renewal
Baton Rouge, East Baton Rouge Parish, Louisiana
Agency Interest Number: 11595
Activity Number: PER20020002
Draft Permit 0840-00171-V1**

I. APPLICANT:

Company:

Flower Baking Co of Baton Rouge, LLC
1504 Florida Boulevard Baton Rouge, LA 70802

Facility:

Flower Baking Co of Baton Rouge, LLC
1504 Florida Boulevard Baton Rouge, LA 70802
Approximate UTM coordinates are 675.400 kilometers East and 3369.800
kilometers North, Zone 15

II. FACILITY AND CURRENT PERMIT STATUS:

The Flowers Baking Co of Baton Rouge LLC currently operates under Permit No.
1520-00081-V0, issued June 30, 1998.

III. PROPOSED PERMIT / PROJECT INFORMATION:

Proposed Permit

A permit application and Emission Inventory Questionnaire were submitted by
Flowers Baking Co of Baton Rouge LLC on December 23, 2002 requesting a Part
70 operating permit renewal.

Project description

Flowers Baking Co of Baton Rouge LLC produces bread using four types of
dough mixing processes; sponge dough, straight dough, no time dough, and liquid
brew. The processes vary depending on the ingredients mixed with flour, which
in turn determines the amount of fermentation time available. Fermentation time
can vary from twenty minutes to five hours.

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Liquid sugar and soy oil are shipped in bulk by tank trucks. Flour is received by trucks and stored in silos (inside building) which are equipped with fabric filters to minimize emissions. The flour is weighed and mixed with sugar, yeast, and water.

The mix is passed through a controlled environment, temperature and humidity, and cut to form loaves. Baking in the oven causes expansion of the loaf, crust formation, yeast inactivation, coagulation of the dough proteins, partial gelatinization of the starch, and reduction of loaf moisture. The baking process is where the majority of emissions for the facility are created.

The bakery consists of two high speed production lines which produce bread and buns by the straight dough, sponge dough, and liquid brew processes. In the straight dough process, all ingredients are combined in the mixer and blended to create the final dough. In the sponge dough process, some of the ingredients are mixed together to form a "sponge". This sponge is then put into a trough where it is allowed to ferment for several hours before being returned to another mixer, where the balance of ingredients are added and mixed creating the final dough. In the liquid brew process, the mixing of various ingredients produces a "brew", which is pumped into a fermentation tank and allowed to ferment for a set period of time. This initiates a long series of complex biochemical changes that end in the oven, where the bread or bun is baked. From the fermentation tank, the brew is pumped to the mixer and blended with additional flour and remaining ingredients to create the final dough. In all cases, the final dough is then transferred to the make-up equipment where it is kneaded, cut to proper size, and deposited into a pan. In all processes, the dough is allowed to rise in a "proof box". Steam for controlling the proof box temperature is supplied by the boilers.

Baking of bread usually requires 15 to 20 minutes. Ovens are the main source of emissions in a bakery due to combustion of natural gas and off gases from bread fermentation which causes the sugars and starches to be converted to ethanol, carbon dioxide, and moisture. Once the bread exits the oven, it is allowed to cool then sliced and packaged. The product is then shipped to customers by truck.

Permitted Air Emissions

Estimated changes in permitted emissions from Part 70 operating permit renewal in tons per year are as follows:

<u>Emission Rate (tons/yr)</u>			
<u>Pollutant</u>	<u>Before</u>	<u>After</u>	<u>Change</u>
PM ₁₀	1.91	1.14	-0.77

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SO ₂	0.06	0.06	-
NO _x	9.46	9.45	-0.01
CO	1.97	7.94	+5.97
VOC *	178.13	237.33	+59.2
Ozone Depleting Substances	0.27	0.13	-0.14

Regulatory Analysis

This application was reviewed for compliance with the Louisiana Part 70 operating permit program and Louisiana Air Quality Regulations. Louisiana Comprehensive TAP Emission Control Program, NSPS, NESHAP, CAM and PSD regulations do not apply.

Louisiana Air Quality Regulations and NSPS

The applicability of the appropriate regulations is straightforward and provided in the Facility Specific Requirements Section of the draft permit, or Table 2 of the Air Permit Briefing Sheet. Similarly, the Monitoring, Reporting and Recordkeeping necessary to demonstrate compliance with the applicable terms, conditions and standards are provided in the Facility Specific Requirements Section of the draft permit, or explained in Table 2 of the Air Permit Briefing Sheet.

Prevention of Significant Deterioration Applicability

The current facility does not have the potential to meet the definition of a Major Stationary Source with respect to the Prevention of Significant Deterioration (PSD) regulations.

MACT requirements

This facility is a minor source of toxic air pollutants (TAPs) pursuant to LAC 33:III.Chapter 51. The proposed modifications will not make the facility a major source of TAP's, therefore Maximum Achievable Control Technology and the NESHAP regulations do not apply.

Air Modeling Analysis

None.

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General Condition XVII Activities

The facility will comply with the applicable General Condition XVII Activities emissions as required by the operating permit rule. However, General Condition XVII Activities are not subject to testing, monitoring, reporting or recordkeeping requirements. For a list of approved General Condition XVII Activities, refer to Section VIII of the draft Part 70 permit.

Insignificant Activities

All Insignificant Activities are authorized under LAC 33:III.501.B.5. For a list of approved Insignificant Activities, refer to Section IX of the draft Part 70 permit.

IV. PERMIT SHIELDS

A permit shield was not requested.

V. PERIODIC MONITORING

None

VI. APPLICABILITY AND EXEMPTIONS OF SELECTED SUBJECT ITEMS		
ID No:	Requirement	Notes
EQT006 EQT007 EQT008 EQT009	Opacity and Total suspended particulate (TSP) requirements	Periodic monitoring is not required for these requirements due to compliance demonstrated through the use of sweet natural gas as fuel.

VII. STREAMLINED REQUIREMENTS			
Unit or Plant Site	Programs Being Streamlined	Stream Applicability	Overall Most Stringent Program
Flowers Baking Co of Baton Rouge	None		

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Glossary

Best Available Control Technologies (BACT) - An emissions limitation (including a visible emission standard) based on the maximum degree of reduction for each pollutant subject to regulation under this part which would be emitted from any proposed major stationary source or major modification which the administrative authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant.

CAM - Compliance Assurance Monitoring rule – A federal air regulation under 40 CFR Part 64

Carbon Monoxide (CO) – A colorless, odorless gas, which is an oxide of carbon.

Grandfathered Status- Those facilities that were under actual construction or operation as of June 19, 1969, the signature date of the original Clean Air Act. These facilities are not required to obtain a permit. Facilities that are subject to Part 70 (Title V) requirements lose grandfathered status and must apply for a permit.

Hydrogen Sulfide (H₂S) - A colorless inflammable gas having the characteristic odor of rotten eggs, and found in many mineral springs. It is produced by the action of acids on metallic sulfides, and is an important chemical reagent.

Maximum Achievable Control Technology (MACT) - The maximum degree of reduction in emissions of each air pollutant subject to LAC 33:III.Chapter 51 (including a prohibition on such emissions, where achievable) that the administrative authority, upon review of submitted MACT compliance plans and other relevant information and taking into consideration the cost of achieving such emission reduction, as well as any non-air-quality health and environmental impacts and energy requirements, determines is achievable through application of measures, processes, methods, systems, or techniques.

NESHAP - National Emission Standards for Hazardous Air Pollutants – Toxic air emission standards for specific types of facilities, as outlined in 40 CFR Parts 61 through 63

Nitrogen Oxides (NO_x) - Compounds whose molecules consists of nitrogen and oxygen.

Nonattainment New Source Review (NNSR) - A New Source Review permitting program for major sources in geographic areas that do not meet the National Ambient Air

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Quality Standards (NAAQS) at 40 CFR Part 50. Nonattainment NSR is designed to ensure that emissions associated with new or modified sources will be regulated with the goal of improving ambient air quality.

NSPS - New Source Performance Standards – Air emission standards for specific types of facilities, as outlined in 40 CFR Part 60

Organic Compound - Any compound of carbon and another element. Examples: Methane (CH₄), Ethane (C₂H₆), Carbon Disulfide (CS₂)

Part 70 Operating Permit- Also referred to as a Title V permit, required for major sources as defined in 40 CFR 70 and LAC 33:III.507. Major sources include, but are not limited to, sources which have the potential to emit: ≥ 10 tons per year of any toxic air pollutant; ≥ 25 tons of total toxic air pollutants; and ≥ 100 tons per year of regulated pollutants (unless regulated solely under 112(r) of the Clean Air Act) (25 tons per year for sources in non-attainment parishes).

PM₁₀- Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by the method in Title 40, Code of Federal Regulations, Part 50, Appendix J.

Potential to Emit (PTE) - The maximum capacity of a stationary source to emit any air pollutant under its physical and operational design.

Prevention of Significant Deterioration (PSD) – A New Source Review permitting program for major sources in geographic areas that meet the National Ambient Air Quality Standards (NAAQS) at 40 CFR Part 50. PSD requirements are designed to ensure that the air quality in attainment areas will not degrade.

Sulfur Dioxide (SO₂) – An oxide of sulphur.

TAP - Toxic Air Pollutant (LDEQ acronym for air pollutants regulated under LAC 33 Part III, Chapter 51, Tables 1 through 3

Title V permit – See Part 70 Operating Permit.

Volatile Organic Compound (VOC) - Any organic compound which participates in atmospheric photochemical reactions; that is, any organic compound other than those which the administrator of the U.S. Environmental Protection Agency designates as having negligible photochemical reactivity.